Kindergarten Mathematics

By the end of kindergarten, students understand small numbers, quantities, and simple shapes in their everyday environment. They count, compare, describe and sort objects, and develop a sense of patterns. Students also develop an understanding of measurable attributes of objects.

Standard I: Students will understand simple number concepts and relationships.

Objective 1: Identify and use whole numbers up to 30.

a. Represent whole numbers using concrete, pictorial, and symbolic representations.
b. Order a set of up to ten objects and use ordinal numbers from first to tenth to identify the position of the object in the chosen order.
c. Use one-to-one correspondence when counting a set of objects and develop a strategy for keeping track of counted and uncounted objects.

Objective 2: Identify and use simple relationships among whole numbers up to 30.

a. Estimate quantities in a set of objects using multiples of 10 as benchmark numbers.
b. Compose and decompose quantities to establish a relationship between the parts and the whole.
c. Recognize 5 or 10 as a part of the part-whole relationship of numbers.
d. Compare sets of objects and determine whether they have the same, fewer, or more objects.

Objective 3: Model, describe, and illustrate meanings of addition and subtraction for whole numbers less than ten.

a. Demonstrate the joining and separating of sets of objects to solve problems.
b. Describe the joining or separating of sets with informal language when using models.
c. Record pictorially the results from joining or separating of sets.

Mathematical Language and Symbols Students Should Use

add, subtract, first, second, third, fourth, fifth, sixth, seventh, eighth, ninth, tenth, same, fewer, more

Exploratory Concepts and Skills

- Count by ones, beginning from any number in the counting sequence.
- Represent quantities using concrete objects and investigate partitioning of sets.
- Create problems that can be solved using addition and subtraction.

Standard II: Students will sort and classify objects as well as recognize and create simple patterns.

Objective 1: Identify, sort, and classify objects according to common attributes.

a. Sort objects into groups by attribute and identify which attribute was used.
b. Describe multiple ways to sort and classify a group of objects.

Objective 2: Identify, duplicate, describe, and extend simple repeating and growing patterns.

a. Identify and describe simple repeating patterns with numbers and shapes.
b. Duplicate and extend simple repeating patterns with numbers and shapes.
c. Describe simple growing patterns with shapes.
d. Identify simple patterns in the environment.

Mathematical Language and Symbols Students Should Use

sort, repeating patterns, growing patterns

Exploratory Concepts and Skills 9

Explore skip counting by fives, tens, and twos.

Standard III: Students will understand basic geometry and measurement concepts as well as collect and organize data.

Objective 1: Identify and create simple geometric shapes and describe simple spatial relationships.

a. Identify, name, describe, and draw circles, triangles, rectangles, and squares in various sizes and orientations.
b. Combine shapes to create two-dimensional objects (e.g., using a triangle and square to create a picture of a house).
c. Use words to describe position and distance.
d. Investigate two- and three-dimensional shapes including hexagons, trapezoids, spheres, cubes, and cones.

Objective 2: Identify and use measurable attributes of objects and units of measurement.

a. Identify clocks and calendars as tools that measure time.
b. Identify a day, week, and month on a calendar and name the days of the week in order.
c. Identify pennies, nickels, dimes, and quarters as units of money.
d. Compare two objects by measurable attributes (i.e., length, weight) and order several objects by measurable attributes (i.e., length, weight).

Objective 3: Collect and organize simple data.

a. Pose questions and gather data about self and surroundings.
b. Organize data obtained from sorting and classifying objects.

Mathematical Language and Symbols Students Should Use

circle, triangle, rectangle, square, Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, penny, nickel, dime, quarter, shorter, longer, above, below, near, far, between

Exploratory Concepts and Skills 9

Measure objects using non-standard units.
9 Identify the value of a penny, nickel, dime, and quarter. 9
Organize data in lists, tables, and simple graphs.